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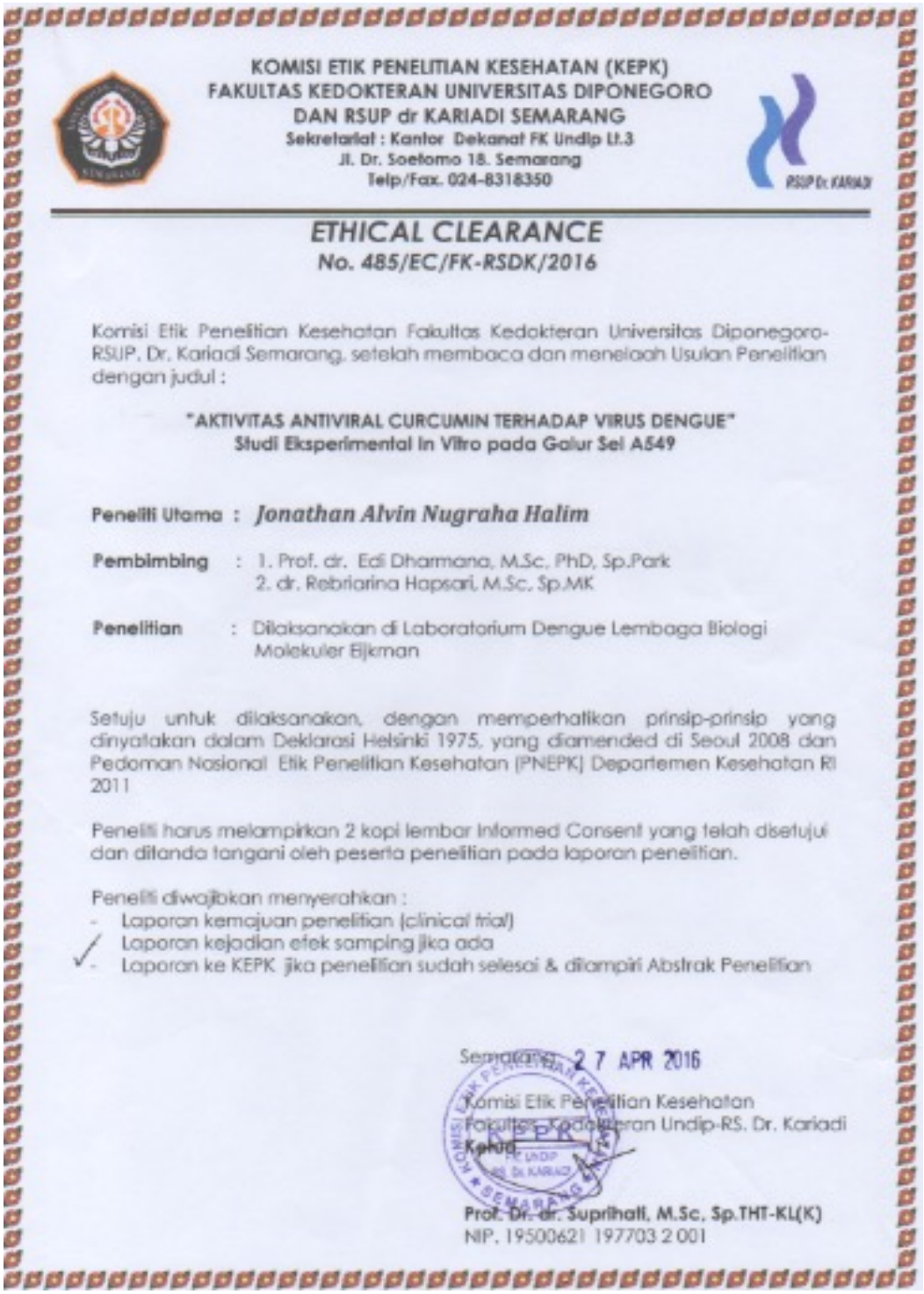
LAMPIRAN 1. Ethical Clearance



KOMISI ETIK PENELITIAN KESEHATAN (KEPK)
FAKULTAS KEDOKTERAN UNIVERSITAS DIPONEGORO
DAN RSUP dr KARIADI SEMARANG
Sekretariat : Kantor Dekanat FK Undip Lt.3
Jl. Dr. Soetomo 18. Semarang
Telp/Fax. 024-8318350

RSUP Dr. KARIADI

ETHICAL CLEARANCE
No. 485/EC/FK-RSDK/2016

Komisi Etik Penelitian Kesehatan Fakultas Kedokteran Universitas Diponegoro-RSUP. Dr. Kariadi Semarang, setelah membaca dan menelaah Usulan Penelitian dengan judul :

"AKTIVITAS ANTIVIRAL CURCUMIN TERHADAP VIRUS DENGUE"
Studi Eksperimental In Vitro pada Galur Sel A549

Peneliti Utama : ***Jonathan Alvin Nugraha Halim***

Pembimbing : 1. Prof. dr. Edi Dharmana, M.Sc., PhD, Sp.Park
2. dr. Rebriarina Hapsari, M.Sc., Sp.MK

Penelitian : Dilaksanakan di Laboratorium Dengue Lembaga Biologi Molekuler Eijkman

Setuju untuk dilaksanakan, dengan memperhatikan prinsip-prinsip yang dinyatakan dalam Deklarasi Helsinki 1975, yang diamended di Seoul 2008 dan Pedoman Nasional Etik Penelitian Kesehatan (PNEPK) Departemen Kesehatan RI 2011

Peneliti harus melampirkan 2 kopi lembar Informed Consent yang telah disetujui dan ditanda tangani oleh peserta penelitian pada laporan penelitian.

Peneliti diwajibkan menyerahkan :
- Laporan kemajuan penelitian (clinical trial)
- ✓ Laporan kejadian efek samping jika ada
- Laporan ke KEPK jika penelitian sudah selesai & dilampiri Abstrak Penelitian

Semarang, 27 APR 2016
Komisi Etik Penelitian Kesehatan
Fakultas Kedokteran Undip-RS. Dr. Kariadi
Ketua

Prof. Dr. dr. Suprihati, M.Sc, Sp.THT-KL(K)
NIP. 19500621 197703 2 001

LAMPIRAN 2. Surat Ijin Penelitian

LEMBAGA BIOLOGI MOLEKULER
EIJKMAN

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KEMENTERIAN RISET, TEKNOLOGI DAN PENDIDIKAN TINGGI

Jakarta 21 April 2016

Nomor: 315/LBME/DEN/IV/2016
Perihal: Ijin melakukan penelitian

Kepada Yth.
Dekan Fakultas Kedokteran
Universitas Diponegoro
Semarang

Dengan hormat,

Berkaitan dengan surat permohonan ijin melakukan penelitian Karya Tulis Ilmiah Mahasiswa Fakultas Kedokteran UNDIP tertanggal 14 April 2016 atas nama:

Nama/NIM : Jonathan Alvin Nugraha Halim/22010112130167

Nama/NIM : Stefanie Natalia Halim/ 22010113130206

Dengan ini kami memberi ijin kepada yang bersangkutan untuk melakukan penelitian di Unit Dengue Lembaga Biologi Molekuler Eijkman dengan mengikuti syarat dan ketentuan yang berlaku di LMB Eijkman.

Atas perhatiannya kami ucapkan terimakasih.

Lembaga Biologi Molekuler Eijkman
Kepala Unit Dengue LBM Eijkman

R. Tedjo Sasmono, Ph.D
NIP. 197105252014061003

LAMPIRAN 3. Data Penelitian

Tabel Absorbansi 570nm *Cell Toxicity Assay*

24 Jam			48 Jam		
Sample ID	**Abs 570 nm**	**Mean Abs**	**Sample ID**	**Abs 570 nm**	**Mean Abs**
Blank	0.046	0.046	Blank	0.044	0.046
	0.046			0.045	
	0.046			0.045	
	0.045			0.045	
	0.046			0.049	
	0.049			0.048	
Medium	0.974	0.881	Medium	1.074	0.980
	0.912			0.996	
	0.895			1.008	
Vehicle 0.1%	0.908	0.837	Vehicle 0.1%	0.947	0.917
	0.883			0.972	
	0.859			0.970	
10 μM	0.906	0.879	10 μM	0.960	0.941
	0.936			1.002	
	0.933			0.998	
20 μM	0.857	0.805	20 μM	1.004	0.955
	0.858			0.978	
	0.838			1.022	
40 μM	0.842	0.784	40 μM	0.974	0.928
	0.824			0.988	
	0.824			0.960	
50 μM	0.844	0.757	50 μM	0.988	0.923
	0.805			0.969	
	0.760			0.951	
100 μM	0.576	0.519	100 μM	0.581	0.538
	0.569			0.586	
	0.552			0.584	
200 μM	0.633	0.560	200 μM	0.396	0.356
	0.609			0.415	
	0.578			0.396	

Tabel Analisis Hasil Curcumin A549 *Cell Toxicity Assay* 24 Jam

Sample ID	Abs 570 nm	Ratio to medium	Mean %Ratio	STDEV
Medium	0.928	105.34%	100.0%	0.047
	0.866	98.30%		
	0.849	96.37%		
Vehicle 0.1%	0.862	97.84%	95.0%	0.028
	0.837	95.00%		
	0.813	92.28%		
10	0.860	97.62%	99.8%	0.019
	0.890	101.02%		
	0.887	100.68%		
20	0.811	92.05%	91.4%	0.013
	0.812	92.17%		
	0.792	89.89%		
40	0.842	90.35%	89.0%	0.012
	0.824	88.30%		
	0.824	88.30%		
50	0.844	90.58%	85.9%	0.048
	0.805	86.15%		
	0.760	81.04%		
100	0.576	60.14%	59.0%	0.014
	0.569	59.35%		
	0.552	57.42%		
200	0.633	66.62%	63.6%	0.031
	0.609	63.89%		
	0.578	60.37%		

Tabel Analisis Hasil Curcumin A549 *Cell Toxicity Assay* 48 Jam

Sample ID	Abs 570 nm	Ratio to medium	Mean %Ratio	STDEV
Medium	1.028	104.90%	100.0%	0.043
	0.950	96.94%		
	0.962	98.16%		
Vehicle 0.1%	0.901	91.94%	93.6%	0.014
	0.926	94.49%		
	0.924	94.29%		
10	0.914	93.27%	96.0%	0.024
	0.956	97.55%		
	0.952	97.14%		
20	0.958	97.76%	97.5%	0.023
	0.932	95.10%		
	0.976	99.59%		
40	0.928	94.69%	94.7%	0.014
	0.942	96.12%		
	0.914	93.27%		
50	0.942	96.12%	94.2%	0.019
	0.923	94.18%		
	0.905	92.35%		
100	0.535	54.59%	54.9%	0.003
	0.540	55.10%		
	0.538	54.90%		
200	0.350	35.71%	36.4%	0.011
	0.369	37.65%		
	0.350	35.71%		

Hasil MTT Assay setelah Uji Antiviral Curcumin

Cell Controls

Sample ID	Abs 570 nm	Blank substracted	Mean Abs	Ratio to medium	% Ratio	Mean % Ratio	STDEV
Blank	0.054		0.0553				
	0.057						
	0.055						
Medium only	0.739	0.684	0.7107	0.9620	96.20	100.0	5.372
	0.793	0.738		1.0380	103.80		
Vehicle (0.1%)	0.749	0.694	0.7050	0.9761	97.61	96.27	1.890
	0.730	0.675		0.9493	94.93		
	0.802	0.747		1.0507	105.07		
Curcumin 10 µM	0.772	0.717	0.7114	1.0084	100.84	100.1	2.614
	0.782	0.727		1.0225	102.25		
	0.746	0.691		0.9719	97.19		
Curcumin 25 µM	0.727	0.672	0.6720	0.9451	94.51	94.56	0.081
	0.728	0.673		0.9465	94.65		
	0.727	0.672		0.9451	94.51		
Curcumin 50 µM	0.642	0.587	0.5780	0.8255	82.55	81.33	4.624
	0.661	0.606		0.8523	85.23		
	0.597	0.542		0.7622	76.22		

After Entry

Sample ID	Abs 570 nm	Blank substracted	Mean Abs	Ratio to medium	% Ratio	Mean % Ratio	STDEV
Medium only	0.656	0.601	0.643	0.9332	93.32	100.0	9.999
	0.668	0.613	7	0.9518	95.18	0	
	0.773	0.718		1.1150	111.50		
Vehicle (0.1%)	0.681	0.626	0.623	0.9720	97.20	96.89	0.677
	0.682	0.627	7	0.9736	97.36		
	0.674	0.619		0.9612	96.12		
Curcumin 10 µM	0.729	0.674	0.665	1.0466	104.66	103.4	1.764
	0.726	0.671	7	1.0419	104.19	2	
	0.708	0.653		1.0140	101.40		
Curcumin 25 µM	0.726	0.671	0.659	1.0419	104.19	102.3	3.690
	0.687	0.632	0	0.9814	98.14	8	
	0.730	0.675		1.0482	104.82		
Curcumin	0.730	0.675	0.644	1.0482	104.82	100.0	6.949

50 µM	0.720	0.665	0	1.0326	103.26	5
	0.648	0.593		0.9208	92.08	

Full Time

Sample ID	Abs 570 nm	Blank substracted	Mean Abs	Ratio to medium	% Ratio	Mean % Ratio	STDEV
Medium only	0.580	0.525	0.5330	0.9844	98.44	100.01	4.255
	0.571	0.516		0.9675	96.75		
	0.614	0.559		1.0482	104.82		
Vehicle (0.1%)	0.565	0.510	0.5157	0.9563	95.63	96.75	1.353
	0.579	0.524		0.9826	98.26		
	0.569	0.514		0.9638	96.38		
Curcumin 10 µM	0.604	0.549	0.5524	1.0295	102.95	103.63	1.033
	0.614	0.559		1.0482	104.82		
	0.605	0.550		1.0313	103.13		
Curcumin 25 µM	0.562	0.507	0.5670	0.9507	95.07	106.39	11.852
	0.688	0.633		1.1871	118.71		
	0.617	0.562		1.0538	105.38		
Curcumin 50 µM	0.631	0.576	0.5644	1.0801	108.01	105.88	1.851
	0.615	0.560		1.0501	105.01		
	0.613	0.558		1.0463	104.63		

Hasil Plaque Assay

	Sample	Plate Code	Titer Virus	Mean PFU	Ratio to Control	Mean Ratio (%)	STDEV Titer
After Entry	Cur 10	B1	850000*	400,000	154.5%	72.7	176,776.70
		B2	525000		95.5%		
		B3	275000		50.0%		
	Cur 25	B4	475000	255,833	86.4%	46.5	192,781.18
		B5	180000		32.7%		
		B6	112500		20.5%		
	Cur 50	B7	450000*	205,000	81.8%	37.3	42,426.41
		BB	175000		31.8%		
		B9	235000		42.7%		
	Virus Control	B10	675000	550,000	122.7%	100.0	123,743.69
		B11	250000*		45.5%		
		B12	425000		77.3%		
	Vehicle 0.1%	D1	700,000	375,000	127.27%	68.18	283,945
		D2	175,000		31.82%		
		D3	250,000		45.45%		
Full TIme							
	Cur 10	C1	1,125,000*	475,000	104.65%	44.19	70,710.68
		C2	425,000		39.54%		
		C3	525,000		48.84%		
	Cur 25	C4	725,000	437,500	67.44%	40.70	88,388.35
		C5	375,000		34.88%		
		C6	500,000		46.51%		
	Cur 50	C7	125,000*	105,000	11.63%	9.77	17,320.51
		CB	95,000		8.84%		
		C9	95,000		8.84%		
	Virus Control	C10	1,075,000	1,075,000	100.00%	100	150,000
		C11	250000*		45.5%		
		C12	425000		77.3%		
	Vehicle 0.1%	D4	1,175,000	1,266,667	99.30%	107	80,364
		D5	1,325,000		111.97%		
		D6	1,300,000		109.86%		

* = outliers

LAMPIRAN 4. Uji Analisis statistik

Uji Normalitas Data Cell Toxicity Assay 24 dan 48 Jam

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Group	Statistic	df	Sig.	Statistic	df	Sig.
24 Jam	Medium	.308	3	.	.902	3	.393
	Vehicle	.176	3	.	1.000	3	.977
	10	.353	3	.	.824	3	.174
	20	.369	3	.	.787	3	.085
	40	.385	3	.	.750	3	.000
	50	.186	3	.	.998	3	.921
	100	.273	3	.	.945	3	.549
	200	.200	3	.	.995	3	.860
48 Jam	Medium	.333	3	.	.862	3	.274
	Vehicle	.359	3	.	.810	3	.138
	10	.354	3	.	.821	3	.165
	20	.215	3	.	.989	3	.800
	40	.175	3	.	1.000	3	1.000
	50	.177	3	.	1.000	3	.970
	100	.219	3	.	.987	3	.780
	200	.385	3	.	.750	3	.000

a. Lilliefors Significance Correction

Analisis Regresi Linear Cell Toxicity Assay 24 jam

Best-fit values ± SE	
Slope	-0.1945 ± 0.06142
Y-intercept	95.06 ± 5.859
X-intercept	488.6
1/slope	-5.14
95% Confidence Intervals	
Slope	-0.3651 to -0.02401
Y-intercept	78.79 to 111.3
X-intercept	288.7 to 3467
Goodness of Fit	
R square	0.7149
Sy.x	9.75
Is slope significantly non-zero?	
F	10.03
DFn, DFd	1, 4
P value	0.0339
Deviation from zero?	Significant
Equation	Y = -0.1945*X + 95.06
Data	
Number of X values	6
Maximum number of Y replicates	1
Total number of values	8
Number of missing values	0

Analisis Regresi Linear Cell Toxicity Assay 48 Jam

Best-fit values ± SE	
Slope	-0.3566 ± 0.05497
Y-intercept	103.9 ± 5.244
X-intercept	291.4
1/slope	-2.804
95% Confidence Intervals	
Slope	-0.5092 to -0.204
Y-intercept	89.34 to 118.5
X-intercept	221 to 461
Goodness of Fit	
R square	0.9132
Sy.x	8.726
Is slope significantly non-zero?	
F	42.09
DFn, DFd	1, 4
P value	0.0029
Deviation from zero?	Significant
Equation	Y = -0.3566*X + 103.9
Data	
Number of X values	6
Maximum number of Y replicates	1
Total number of values	8
Number of missing values	0

Uji Anova Cell Toxicity Assay 24 Jam

ANOVA

Abs24

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.403	7	.058	83.579	.000
Within Groups	.011	16	.001		

Total	.415	23			

Multiple Comparisons

Dependent Variable: Abs24

Tukey HSD

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Medium	Vehicle	.043667	.021442	.490	-.03057	.11790
	10	.002000	.021442	1.000	-.07223	.07623
	20	.076000*	.021442	.043	.00177	.15023
	40	.097000*	.021442	.006	.02277	.17123
	50	.124000*	.021442	.001	.04977	.19823
	100	.361333*	.021442	.000	.28710	.43557
	200	.320333*	.021442	.000	.24610	.39457
Vehicle	Medium	-.043667	.021442	.490	-.11790	.03057
	10	-.041667	.021442	.544	-.11590	.03257
	20	.032333	.021442	.793	-.04190	.10657
	40	.053333	.021442	.267	-.02090	.12757
	50	.080333*	.021442	.029	.00610	.15457
	100	.317667*	.021442	.000	.24343	.39190
	200	.276667*	.021442	.000	.20243	.35090
10	Medium	-.002000	.021442	1.000	-.07623	.07223
	Vehicle	.041667	.021442	.544	-.03257	.11590
	20	.074000	.021442	.051	-.00023	.14823
	40	.095000*	.021442	.008	.02077	.16923
	50	.122000*	.021442	.001	.04777	.19623
	100	.359333*	.021442	.000	.28510	.43357
	200	.318333*	.021442	.000	.24410	.39257
20	Medium	-.076000*	.021442	.043	-.15023	-.00177
	Vehicle	-.032333	.021442	.793	-.10657	.04190
	10	-.074000	.021442	.051	-.14823	.00023
	40	.021000	.021442	.971	-.05323	.09523
	50	.048000	.021442	.380	-.02623	.12223
	100	.285333*	.021442	.000	.21110	.35957

	200	.244333*	.021442	.000	.17010	.31857
40	Medium	-.097000*	.021442	.006	-.17123	-.02277
	Vehicle	-.053333	.021442	.267	-.12757	.02090
	10	-.095000*	.021442	.008	-.16923	-.02077
	20	-.021000	.021442	.971	-.09523	.05323
	50	.027000	.021442	.901	-.04723	.10123
	100	.264333*	.021442	.000	.19010	.33857
	200	.223333*	.021442	.000	.14910	.29757
50	Medium	-.124000*	.021442	.001	-.19823	-.04977
	Vehicle	-.080333*	.021442	.029	-.15457	-.00610
	10	-.122000*	.021442	.001	-.19623	-.04777
	20	-.048000	.021442	.380	-.12223	.02623
	40	-.027000	.021442	.901	-.10123	.04723
	100	.237333*	.021442	.000	.16310	.31157
	200	.196333*	.021442	.000	.12210	.27057
100	Medium	-.361333*	.021442	.000	-.43557	-.28710
	Vehicle	-.317667*	.021442	.000	-.39190	-.24343
	10	-.359333*	.021442	.000	-.43357	-.28510
	20	-.285333*	.021442	.000	-.35957	-.21110
	40	-.264333*	.021442	.000	-.33857	-.19010
	50	-.237333*	.021442	.000	-.31157	-.16310
	200	-.041000	.021442	.562	-.11523	.03323
200	Medium	-.320333*	.021442	.000	-.39457	-.24610
	Vehicle	-.276667*	.021442	.000	-.35090	-.20243
	10	-.318333*	.021442	.000	-.39257	-.24410
	20	-.244333*	.021442	.000	-.31857	-.17010
	40	-.223333*	.021442	.000	-.29757	-.14910
	50	-.196333*	.021442	.000	-.27057	-.12210
	100	.041000	.021442	.562	-.03323	.11523

*. The mean difference is significant at the 0.05 level.

Uji Anova Cell Toxicity Assay 48 jam

ANOVA

Abs48

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.155	7	.165	361.651	.000
Within Groups	.007	16	.000		
Total	1.162	23			

Multiple Comparisons

Dependent Variable: Abs48

Tukey HSD

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Medium	Vehicle	.063000*	.017437	.038	.00263	.12337
	10	.039333	.017437	.372	-.02104	.09970
	20	.024667	.017437	.838	-.03570	.08504
	40	.052000	.017437	.119	-.00837	.11237
	50	.056667	.017437	.074	-.00370	.11704
	100	.442333*	.017437	.000	.38196	.50270
	200	.623667*	.017437	.000	.56330	.68404
Vehicle	Medium	-.063000*	.017437	.038	-.12337	-.00263
	10	-.023667	.017437	.863	-.08404	.03670
	20	-.038333	.017437	.401	-.09870	.02204
	40	-.011000	.017437	.998	-.07137	.04937
	50	-.006333	.017437	1.000	-.06670	.05404
	100	.379333*	.017437	.000	.31896	.43970
	200	.560667*	.017437	.000	.50030	.62104

10	Medium	-.039333	.017437	.372	-.09970	.02104
	Vehicle	.023667	.017437	.863	-.03670	.08404
	20	-.014667	.017437	.988	-.07504	.04570
	40	.012667	.017437	.995	-.04770	.07304
	50	.017333	.017437	.969	-.04304	.07770
	100	.403000*	.017437	.000	.34263	.46337
	200	.584333*	.017437	.000	.52396	.64470
20	Medium	-.024667	.017437	.838	-.08504	.03570
	Vehicle	.038333	.017437	.401	-.02204	.09870
	10	.014667	.017437	.988	-.04570	.07504
	40	.027333	.017437	.762	-.03304	.08770
	50	.032000	.017437	.608	-.02837	.09237
	100	.417667*	.017437	.000	.35730	.47804
	200	.599000*	.017437	.000	.53863	.65937
40	Medium	-.052000	.017437	.119	-.11237	.00837
	Vehicle	.011000	.017437	.998	-.04937	.07137
	10	-.012667	.017437	.995	-.07304	.04770
	20	-.027333	.017437	.762	-.08770	.03304
	50	.004667	.017437	1.000	-.05570	.06504
	100	.390333*	.017437	.000	.32996	.45070
	200	.571667*	.017437	.000	.51130	.63204
50	Medium	-.056667	.017437	.074	-.11704	.00370
	Vehicle	.006333	.017437	1.000	-.05404	.06670
	10	-.017333	.017437	.969	-.07770	.04304
	20	-.032000	.017437	.608	-.09237	.02837
	40	-.004667	.017437	1.000	-.06504	.05570
	100	.385667*	.017437	.000	.32530	.44604
	200	.567000*	.017437	.000	.50663	.62737
100	Medium	-.442333*	.017437	.000	-.50270	-.38196
	Vehicle	-.379333*	.017437	.000	-.43970	-.31896
	10	-.403000*	.017437	.000	-.46337	-.34263
	20	-.417667*	.017437	.000	-.47804	-.35730
	40	-.390333*	.017437	.000	-.45070	-.32996
	50	-.385667*	.017437	.000	-.44604	-.32530
	200	.181333*	.017437	.000	.12096	.24170

200	Medium	-.623667*	.017437	.000	-.68404	-.56330
	Vehicle	-.560667*	.017437	.000	-.62104	-.50030
	10	-.584333*	.017437	.000	-.64470	-.52396
	20	-.599000*	.017437	.000	-.65937	-.53863
	40	-.571667*	.017437	.000	-.63204	-.51130
	50	-.567000*	.017437	.000	-.62737	-.50663
	100	-.181333*	.017437	.000	-.24170	-.12096

*. The mean difference is significant at the 0.05 level.

Uji Normalitas Data After Entry

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Group	Statistic	df	Sig.	Statistic	df	Sig.
After_Entry	Medium	.352	3	.	.826	3	.178
	Vehicle	.343	3	.	.842	3	.220
	10	.337	3	.	.855	3	.253
	25	.355	3	.	.819	3	.161
	50	.345	3	.	.840	3	.214

a. Lilliefors Significance Correction

Uji Normalitas Data Full Time

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Group	Statistic	df	Sig.	Statistic	df	Sig.
Full_Time	Medium	.310	3	.	.899	3	.381
	Vehicle	.276	3	.	.942	3	.537
	10	.353	3	.	.824	3	.174
	25	.200	3	.	.995	3	.860
	50	.349	3	.	.832	3	.194

a. Lilliefors Significance Correction

Uji Anova MTT After Entry

ANOVA

After_Entry

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.003	4	.001	.578	.685
Within Groups	.014	10	.001		
Total	.017	14			

Multiple Comparisons

Dependent Variable: After_Entry

Tukey HSD

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Medium	Vehicle	.020000	.030236	.960	-.07951	.11951
	10	-.022000	.030236	.945	-.12151	.07751
	25	-.015333	.030236	.985	-.11484	.08418
	50	-.000333	.030236	1.000	-.09984	.09918
Vehicle	Medium	-.020000	.030236	.960	-.11951	.07951
	10	-.042000	.030236	.647	-.14151	.05751
	25	-.035333	.030236	.768	-.13484	.06418
	50	-.020333	.030236	.958	-.11984	.07918
10	Medium	.022000	.030236	.945	-.07751	.12151
	Vehicle	.042000	.030236	.647	-.05751	.14151
	25	.006667	.030236	.999	-.09284	.10618
	50	.021667	.030236	.948	-.07784	.12118
25	Medium	.015333	.030236	.985	-.08418	.11484
	Vehicle	.035333	.030236	.768	-.06418	.13484
	10	-.006667	.030236	.999	-.10618	.09284
	50	.015000	.030236	.986	-.08451	.11451
50	Medium	.000333	.030236	1.000	-.09918	.09984
	Vehicle	.020333	.030236	.958	-.07918	.11984
	10	-.021667	.030236	.948	-.12118	.07784
	25	-.015000	.030236	.986	-.11451	.08451

Uji Anova MTT Full Time

ANOVA

Full_Time

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.006	4	.001	1.525	.268
Within Groups	.009	10	.001		
Total	.015	14			

Multiple Comparisons

Dependent Variable: Full_Time

Tukey HSD

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Medium	Vehicle	.017333	.024992	.953	-.06492	.09958
	10	-.019333	.024992	.933	-.10158	.06292
	25	-.034000	.024992	.663	-.11625	.04825
	50	-.031333	.024992	.723	-.11358	.05092
Vehicle	Medium	-.017333	.024992	.953	-.09958	.06492
	10	-.036667	.024992	.603	-.11892	.04558
	25	-.051333	.024992	.309	-.13358	.03092
	50	-.048667	.024992	.355	-.13092	.03358
10	Medium	.019333	.024992	.933	-.06292	.10158
	Vehicle	.036667	.024992	.603	-.04558	.11892
	25	-.014667	.024992	.974	-.09692	.06758
	50	-.012000	.024992	.988	-.09425	.07025
25	Medium	.034000	.024992	.663	-.04825	.11625
	Vehicle	.051333	.024992	.309	-.03092	.13358
	10	.014667	.024992	.974	-.06758	.09692
	50	.002667	.024992	1.000	-.07958	.08492
50	Medium	.031333	.024992	.723	-.05092	.11358
	Vehicle	.048667	.024992	.355	-.03358	.13092
	10	.012000	.024992	.988	-.07025	.09425
	25	-.002667	.024992	1.000	-.08492	.07958

Uji Normalitas Data Titer Virus After Entry

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Group	Statistic	df	Sig.	Statistic	df	Sig.
After_Entry	Medium	.213	3	.	.990	3	.806
	Vehicle	.337	3	.	.855	3	.253
	10	.201	3	.	.994	3	.856
	25	.320	3	.	.884	3	.336
	50	.306	3	.	.904	3	.399

a. Lilliefors Significance Correction

Uji Normalitas Data Titer Virus Full Time

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Group	Statistic	df	Sig.	Statistic	df	Sig.
Full_Time	Medium	.175	3	.	1.000	3	1.000
	Vehicle	.328	3	.	.871	3	.298
	10	.337	3	.	.855	3	.253
	25	.241	3	.	.974	3	.688
	50	.385	3	.	.750	3	.000

a. Lilliefors Significance Correction

Uji Anova After Entry

ANOVA

After_Entry

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	173676666666.667	4	43419166666.667	.812	.546
Within Groups	534895833333.333	10	53489583333.333		
Total	708572500000.000	14			

Multiple Comparisons

Dependent Variable: After_Entry

Tukey HSD

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Medium	Vehicle	75000.00	188837.81989	.994	-546480.7765	696480.7765
	10	-100000.00	188837.81989	.982	-721480.7765	521480.7765
	25	194166.67	188837.81989	.837	-427314.1098	815647.4432
	50	163333.33	188837.81989	.903	-458147.4432	784814.1098
Vehicle	Medium	-75000.00	188837.81989	.994	-696480.7765	546480.7765
	10	-175000.00	188837.81989	.880	-796480.7765	446480.7765
	25	119166.67	188837.81989	.966	-502314.1098	740647.4432
	50	88333.33	188837.81989	.989	-533147.4432	709814.1098
10	Medium	100000.00	188837.81989	.982	-521480.7765	721480.7765
	Vehicle	175000.00	188837.81989	.880	-446480.7765	796480.7765
	25	294166.67	188837.81989	.552	-327314.1098	915647.4432
	50	263333.33	188837.81989	.644	-358147.4432	884814.1098
25	Medium	-194166.67	188837.81989	.837	-815647.4432	427314.1098
	Vehicle	-119166.67	188837.81989	.966	-740647.4432	502314.1098
	10	-294166.67	188837.81989	.552	-915647.4432	327314.1098
	50	-30833.33	188837.81989	1.000	-652314.1098	590647.4432
50	Medium	-163333.33	188837.81989	.903	-784814.1098	458147.4432
	Vehicle	-88333.33	188837.81989	.989	-709814.1098	533147.4432
	10	-263333.33	188837.81989	.644	-884814.1098	358147.4432
	25	30833.33	188837.81989	1.000	-590647.4432	652314.1098

Uji one way anova Full Tme

ANOVA

Full_Time

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	251314333333.333	4	62828583333.333	15.395	.000
Within Groups	408100000000.000	10	40810000000.000		
Total	292124333333.333	14			

Multiple Comparisons

Dependent Variable: Full_Time

Tukey HSD

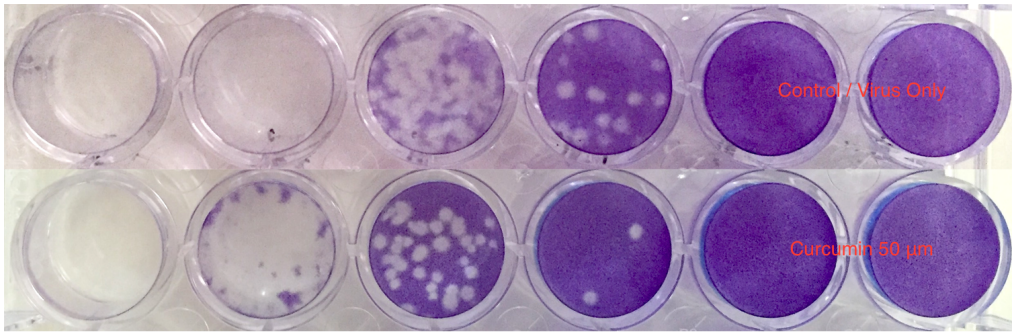
(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Medium	Vehicle	-191666.67	164944.43509	.772	-734512.3512	351179.0178
	10	383333.33	164944.43509	.214	-159512.3512	926179.0178
	25	541666.67	164944.43509	.051	-1179.0178	1084512.3512
	50	970000.00*	164944.43509	.001	427154.3155	1512845.6845
Vehicle	Medium	191666.67	164944.43509	.772	-351179.0178	734512.3512
	10	575000.00*	164944.43509	.037	32154.3155	1117845.6845
	25	733333.33*	164944.43509	.009	190487.6488	1276179.0178
	50	1161666.67*	164944.43509	.000	618820.9822	1704512.3512
10	Medium	-383333.33	164944.43509	.214	-926179.0178	159512.3512
	Vehicle	-575000.00*	164944.43509	.037	-1117845.6845	-32154.3155
	25	158333.33	164944.43509	.867	-384512.3512	701179.0178
	50	586666.67*	164944.43509	.033	43820.9822	1129512.3512
25	Medium	-541666.67	164944.43509	.051	-1084512.351	1179.0178
	Vehicle	-733333.33*	164944.43509	.009	-1276179.017	-190487.6488
	10	-158333.33	164944.43509	.867	-701179.017	384512.3512
	50	428333.33	164944.43509	.144	-114512.351	971179.0178

50	Medium	-970000.00*	164944.43509	.001	-1512845.6845	-427154.3155
	Vehicle	-1161666.67*	164944.43509	.000	-1704512.3512	-618820.9822
	10	-586666.67*	164944.43509	.033	-1129512.3512	-43820.9822
	25	-428333.33	164944.43509	.144	-971179.0178	114512.3512

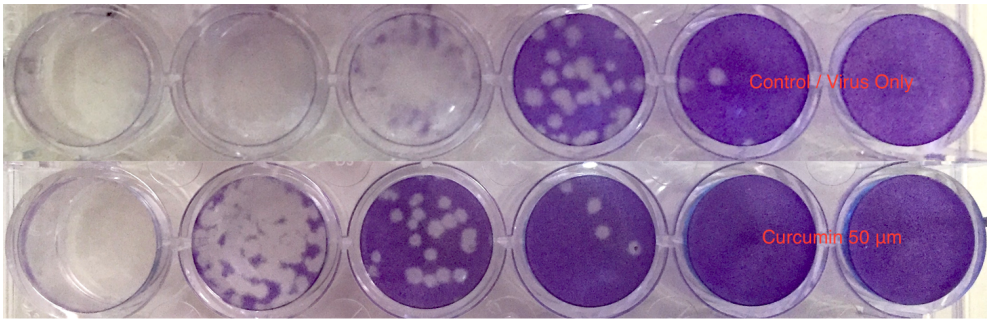
*. The mean difference is significant at the 0.05 level.

LAMPIRAN 6. Dokumentasi

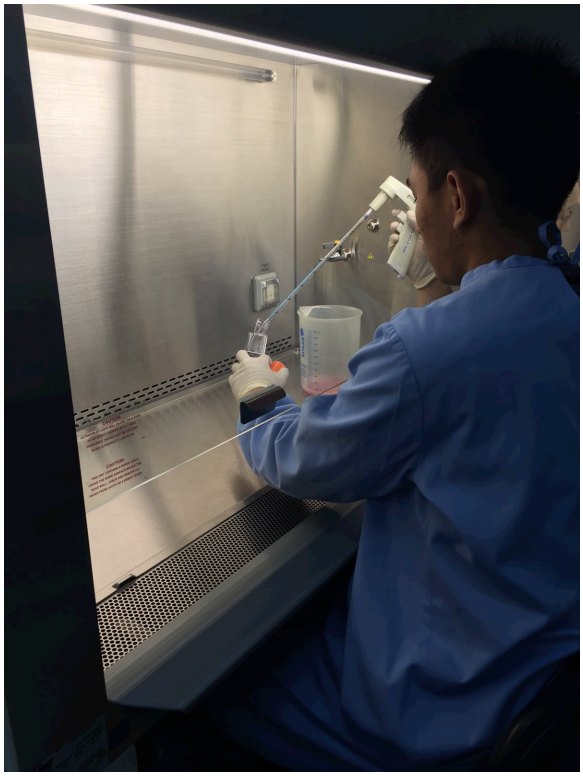
Hasil *Plaque Assay After Entry*

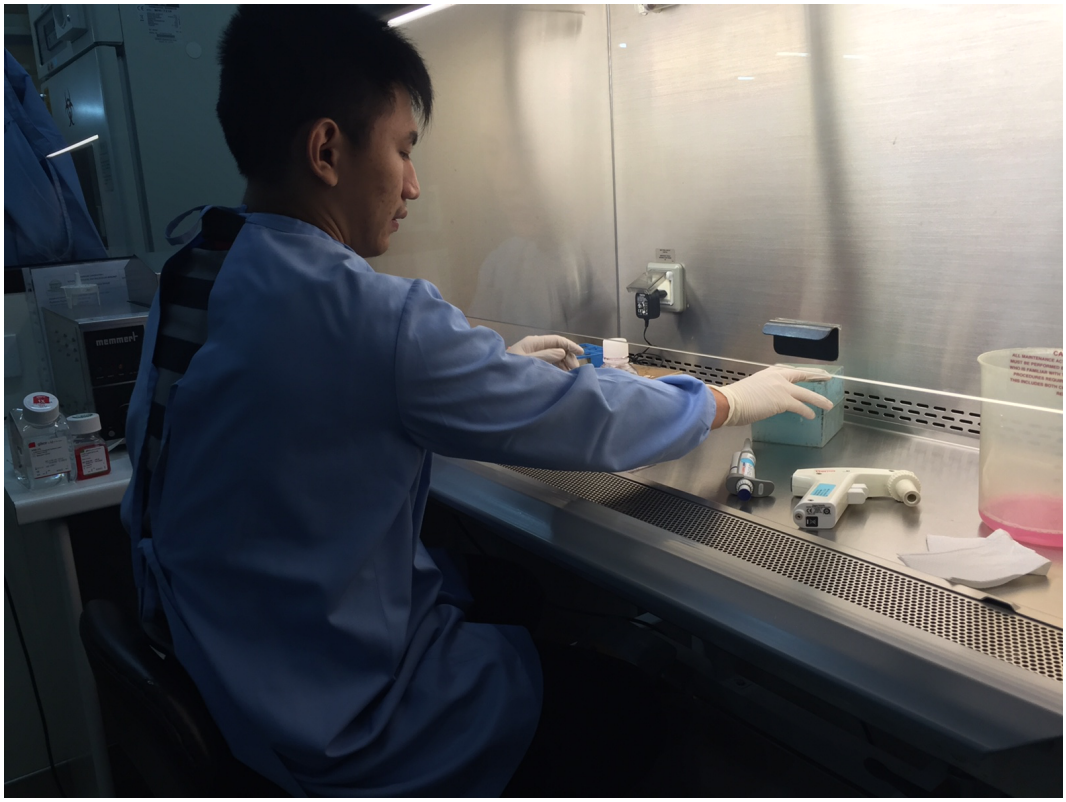


Hasil *Plaque Assay Full Time*



Bahan bahan yang digunakan dalam kultur sel





LAMPIRAN 7. Biodata Mahasiswa

Identitas

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Riwayat Pendidikan Formal

1. SD Xaverius 1 Jambi — Lulus tahun : 2006
2. SMP Xaverius 1 Jambi — Lulus tahun : 2009
3. SMA Kolese Loyola Semarang — Lulus tahun : 2012
4. Fakultas Kedokteran Universitas Diponegoro — Masuk tahun : 2012

Riwayat Organisasi

1. Ketua BK Basket HIMA KU Undip (2013-14)
2. Kordiv. Eksternal dan Olahraga Pelayanan Rohani Mahasiswa Katolik Fakultas Kedokteran UNDIP (2015)

Publikasi

1. Haryanto S, Hayati RF, Yohan B, Sijabat L, Sihite IF, Fahri S, Meutiawati F, **Halim Jonathan A.N**, Halim SN, Soebandrio A, Sasmono RT. The molecular and clinical features of dengue during outbreak in Jambi, Indonesia in 2015. *Pathog Glob Health*. May 2016:1-11.